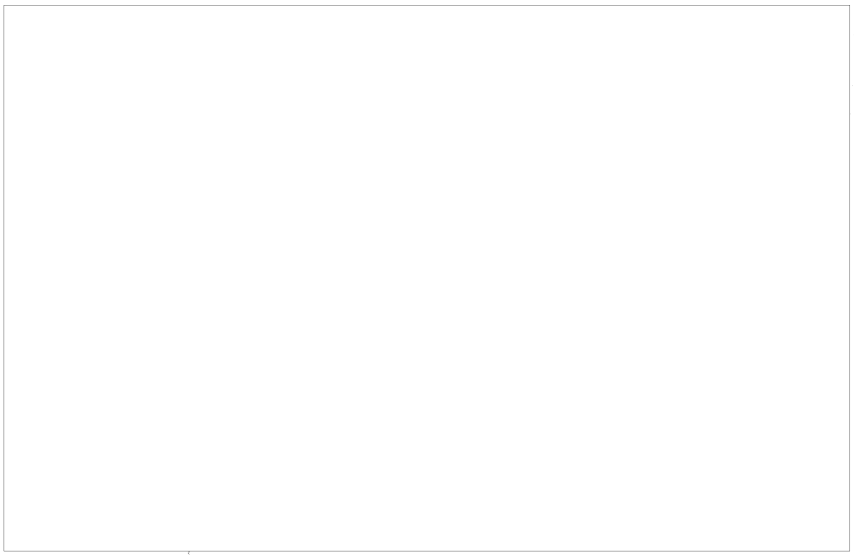

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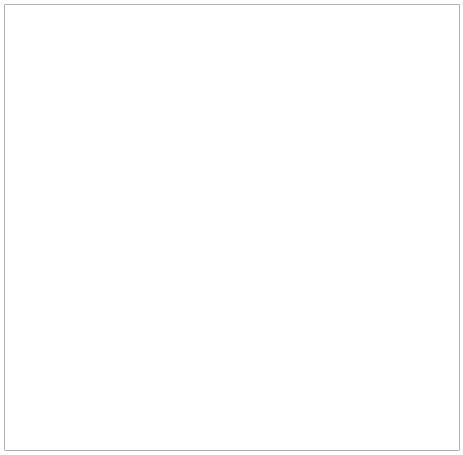
The Kura-Araksin Expedition of 1950

Vestnik Akademii Nauk SSSR, No 12
Moscow, Dec 1950



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THE KURA-ARAKSIN EXPEDITION OF 1950

Editors

[Note: The following article appeared in the regular 'Expeditions' section of the journal Vestnik Akademii Nauk SSSR, No 12 (December 1950), pages 114-115.]

In 1950 the Kura-Araksin expedition of the V. V. Dokuchaev Soil Institute, Academy of Sciences USSR, finished its fifth season of field investigations.

The expedition was organized in connection with the problem of the extensive development of irrigation in the Kura-Araksin lowland on the basis of the Mingechaurs' reservoir now under construction and a powerful hydroelectric network.

The program of investigations included the clarification of a number of problems; namely, pedogenetic, pedogeographic and soil improvement properties of the Kura-Araksin lowland and of its adjacent regions; processes of salt accumulation in soils, ground and ground waters; hydrophysical and physico-chemical properties of soils and grounds of the lowlands; the role of ground waters in the water-salt balance of the Kura-Araksin lowland; effectiveness of various land-improvement measures in the struggle against salting and swamping, and so on.

The great problems set before the expedition required the participation of specialists, ~~besides~~ from the Soil Institute, but also from the Academy of Sciences Azerbaydzhan SSR, Azvodproyekt, Azerbaydzhan Scientific-Research Institute of Hydrotechnics and Melioration [land improvements], and the Azerbaydzhan Scientific-Research Institute of Agriculture. The geo-botanical

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works of the expedition were carried out by co-workers from the Botanical Institute imeni V. L. Komarov, Academy of Sciences USSR. The general scientific research of the expedition was directed by Doctor of Geologico-Mineral Sciences, V. A. Kovda, the leader of the expedition for 1949 having been Doctor of Geologico-Mineral Sciences, A. N. Rozanov.

As a result of the Kura-Araksin expedition of 1950, the soil cover of the lowland as a whole was more precisely mapped, and the special position of the Kura-Araksin lowland among the soil regions of the Soviet Union was established. It should be noted that some investigators (V. R. Volobuev and V. A. Kovda) consider the Kura-Araksin lowland as an unusual east-transcaucasian province of the serozem [grey soils] and kashtanozem [nut brown soils]; others (A. N. Rozanov) consider that a special pedological zone exists within the limits of this lowland, in whose concrete expression of soil processes is a new soil type -- namely, korichnezem [cinnamon soils].

The expedition clarified the basic laws governing salt accumulation in soils, grounds and ground waters of the lowland and in individual parts; in particular the expedition established the great depth of salting. It classified the types of salinification (salting) and noted their regions of extension in the lowlands. The great significance, in salt accumulation, of the transpirational activity of natural plants was established. Finally, it established the great development, in the soils of Kura-Araksin lowland, of processes of salinification and their sources.

The expedition also gave the characteristics of the hydrophysical properties of the main soils and grounds in the Kura-Araksin lowland. First, it clarified the colloidal-mineralogical composition of grounds of various

origins and the nature of the strong incrustaceous character of some soils. On the example of the Northern-Mugan and Seyden-Massif expedition, the process governing the formation of water-salt balances was established.

Methods of soil improvement regionalization were significantly perfected. The expedition carried out a number of experimental investigations on the role of plants in ameliorating salty soils, the dynamics of soil solutions in natural and improved salty soils, and also the role of root debris in soil formation, and so on.

In the current year, 1950, co-workers of the expedition participated actively in pedological investigations of the paths to be taken by state forested strips in the Kura-Araksin lowland. In the Milsk steppes, a station organized in the current year, is investigating the possibility of establishing scientific bases for methods of increasing fertility under conditions of salty soils (investigations of the dynamics of the water-salt regime of soils and plants; physiological investigations of the immunity of the cotton plant, study of microflora of soils; etc).

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